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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/538,260	06/09/2005	Peter Gravesen	6495-0108WOUS	3290

35301 7590 10/30/2006

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EXAMINER

DAVIS, OCTAVIA L

ART UNIT PAPER NUMBER

2855

DATE MAILED: 10/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/538,260	Applicant(s) GRAVESEN ET AL.	
	Examiner Octavia Davis	Art Unit 2855	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 6/9/05 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>6/9/05</u> . | 6) <input type="checkbox"/> Other: ____  |

## DETAILED ACTION

Acknowledgement is made of applicant's preliminary amendment filed 6/9/05.

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 – 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Miller et al (3,875,481).

Regarding claim 1, Miller et al disclose a capacitive weighing mat comprising a first pressure transfer layer, a second pressure transfer layer, an elastomeric body arranged between the first and second pressure transfer layers, the body having a first surface and a second surface opposed to each other, the first and second surfaces having corrugations to allow displacement of elastomeric body material in a predetermined direction perpendicular to the corrugations when exposed to a contact pressure on at least one of the surfaces, a first electrode arranged on the first surface and a second electrode arranged on the second surface, the first and the second electrodes being connectable to external means for determining the capacitance of a capacitor formed by the elastomeric body and at least one transfer layer has at least one portion of increased thickness.

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Regarding claim 2, at least one pressure transfer layer 11, 12 has a central portion of increased thickness and, on each side of the central portion in the predetermined direction of extension of the body, an end portion of decreased thickness (See Fig. 2).

Regarding claims 3 and 4, the exterior conductive layers 11, 12 are isolated from the central layer 13 (See Fig. 1, See Col. 2, lines 60 – 64).

Regarding claim 5, the protrusions 30, 32 are separated by a thin web 14a which aids in the linear output capacitance change value being within a preselected limit (See Col. 2, lines 56 – 60 and Col. 3, lines 22 – 28).

Regarding claims 6 and 7, the thickness of the pressure transfer layer (0.070 inch) is substantially equal to the thickness of the elastomeric body (0.050 inch) (See Col. 2, lines 46 – 49 and Col. 4, lines 18 – 24) and the layers have similar elastomeric properties (See Col. 2, lines 43 – 46).

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 8 – 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miller et al (3,875,481) in view of Severwright (4,549,093).

Regarding claims 8 – 13, Miller et al disclose all of the limitations of these claims except that the sensor elements are arranged in a row and column configuration and are formed in a common

elastomeric body member, the body member constituting a continuous sequence of sensor body elements. However, Severwright discloses a tactile sensor array comprising an array of parallel row conductors 1, an array of parallel column conductors 2, a material layer 3 disposed between the conductors (See Col. 2, lines 56 – 64), a sheet material 6 overlying the conductors, raised protrusions 7 located on the sheet for maintaining the sheet and the conductors in spaced relationship (See Severwright, Col. 3, lines 1 – 9).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Miller et al according to the teachings of Severwright for the purpose of, providing a sensor array and circuit arrangement for detecting substantially all crossing points within an area of the surface of a conductive sheet to which pressure is applied and generating electrical signals indicative of the locations of the crossing points to which pressure is applied relative to the first and second arrays (See Severwright, Col. 1, lines 44 – 50).

### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Haberl et al (4,370,697) disclose a capacitor for measuring forces.

Brunner et al (4,986,136) disclose a measuring system.

Smith (5,548,564) discloses multi-layer composite ultrasonic transducer arrays.

Colla et al (5,090,246) disclose an elastomer type low pressure sensor.

Rzepczynski (4,866,412) discloses a tactile sensor device.

Trull et al (4,640,137) disclose a tactile sensor.

Benslimane et al (7,104,146) disclose a position sensor comprising elastomeric material.

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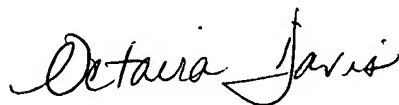
Miller (3,565,195) discloses an electrical weighing apparatus using a capacitive flexible mat.

Duncan et al (4,852,443) disclose a capacitive pressure sensing method and apparatus.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Octavia Davis whose telephone number is 571-272-2176. The examiner can normally be reached on Mon through Thurs from 9 to 5. The examiner can also be reached on alternate Fridays.

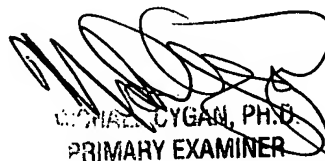
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz, can be reached on 571-272-2180. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



OD/2855

10/24/06



MICHAEL CYGAN, PH.D.  
PRIMARY EXAMINER